

REMARKS

Claims 1, 8, 12, 16, 22, 28, 34, 37, and 41 are currently amended. Applicant respectfully submits that the amendments contained herein are fully supported by the Specification as originally filed and do not contain new matter.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 5-6, and 47-49 were rejected under 35 U.S.C. § 102(b) as being anticipated by Murthy et al. (U.S. Patent No. 6,541,343). Applicant respectfully traverses.

Claim 1, as currently amended, recites that first and second source/drain regions each comprise polysilicon interposed between an extension of epitaxial silicon and a corresponding field isolation region. There is no indication of this in Murthy et al. Therefore, Murthy et al. does not include each and every element of claim 1, so claim 1 should be allowed.

Claims 5 and 47 each recite that a first source/drain region on a first side of a channel region has a polycrystalline portion, a second source/drain region on a second side of the channel region has a polycrystalline portion, a first extension of epitaxial silicon is interposed between the first side of the channel region and the polysilicon portion of the first source/drain region and a second extension of epitaxial silicon is interposed between the second side of the channel region and the polysilicon portion of the second source/drain region. This is different than Murthy et al. The Examiner has taken source/drain regions 408 (Figure 7) as corresponding to the first and second source drain regions of claim 5 or 47 and the region underneath gate dielectric 208 as corresponding to the channel region of claim 5 or 47. There is no indication in Murthy et al. of an extension of epitaxial silicon interposed between the region underneath gate dielectric 208 and a polysilicon portion of either of source/drain regions 408. In fact, there is no indication in Murthy et al. of source/drain regions 408 having polysilicon portions. Therefore, Murthy et al. does not include each and every element of claim 5 or 47, so claims 5 and 47 should be allowed.

Claims 48-49 depend from claim 47 and are thus allowable for at least the same reasons as claim 47. Therefore, claims 48-49 should be allowed.

Claim 6 recites that the source/drain regions comprise polysilicon. There is no indication in Murthy et al. of source/drain regions comprising polysilicon. Therefore, Murthy et al. does not include each and every element of claim 6, so claim 6 should be allowed.

Claim Rejections Under 35 U.S.C. § 103

Claims 8, 12-13, 37, and 56-57 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Murthy et al. and further in view of Jacob Millman, Microelectronics: Digital and Analog Circuits and Systems, pp 289, 295 (hereinafter “Millman”). Applicant respectfully traverses.

Claims 8, 12, and 37, as currently amended, each recite that first and second source/drain regions each comprise polysilicon interposed between an extension of epitaxial silicon and a corresponding field isolation region. There is no indication of this in Murthy et al. Therefore, Murthy et al. does not include each and every element of claim 8 or 37, so claims 8 and 37 are patentably distinct from Murthy et al. Moreover, Murthy et al. in combination with Millman fails to overcome the deficiencies of Murthy et al. with respect to claim 8 or 37. Therefore, claims 8 and 37 are allowable over Murthy et al. in view of Millman.

Claim 13 recites that first and second source/drain regions each have a polysilicon portion and that epitaxial silicon is interposed between a first side of a channel region and the polysilicon portion of the first source/drain region and between a second side of the channel region and the polysilicon portion of the second source/drain region. As indicated above in conjunction with claim 5, there is no indication or suggestion of this in Murthy et al, so claim 13 is patentably distinct from Murthy et al. Moreover, Murthy et al. in combination with Millman fails to overcome the deficiencies of Murthy et al. with respect to claim 13. Therefore, claim 13 is allowable over Murthy et al. in view of Millman.

Claims 56 and 57 each recite that first and second source/drain regions each comprise a polysilicon portion and that an epitaxial monocrystalline material is interposed between a channel region and the polysilicon portions of the first and second source/drain regions. This is different than Murthy et al. The Examiner has taken source/drain regions 408 (Figure 7) as corresponding to the first and second source drain regions of claim 56 or 57 and the region

underneath gate dielectric 208 as corresponding to the channel region of claim 56 or 57. There is no indication in Murthy et al. of an epitaxial monocrystalline material interposed between the region underneath gate dielectric 208 and a polysilicon portion of either of source/drain regions 408. In fact, there is no indication in Murthy et al. of source/drain regions 408 having polysilicon portions. Therefore, Murthy et al. does not include each and every element of claim 56 or 57, so claims 56 and 57 are patentably distinct from Murthy et al. Moreover, Murthy et al. in combination with Millman fails to overcome the deficiencies of Murthy et al. with respect to claim 56 or 57. Therefore, claims 56 and 57 are allowable over Murthy et al. in view of Millman.

Claims 16 and 19-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Murthy et al. and further in view of Wieczorek et al. (U.S. Patent No. 6,274,894). Applicant respectfully traverses.

Claims 16 and 22, as currently amended, each recite that first and second source/drain regions each comprise polysilicon interposed between an extension of epitaxial silicon and a corresponding field isolation region. There is no indication of this in Murthy et al. Therefore, Murthy et al. does not include each and every element of claim 16 or 22, so claims 16 and 22 are patentably distinct from Murthy et al. Moreover, Murthy et al. in combination with Wieczorek et al. fails to overcome the deficiencies of Murthy et al. with respect to claim 16 or 22. Therefore, claims 16 and 22 are allowable over Murthy et al. in view of Wieczorek et al.

Claims 19-21 depend from claim 16 and are thus allowable for at least the same reasons as claim 16. Therefore, claims 19-21 should be allowed.

Claim 23 recites that the monocrystalline silicon substrate comprises monocrystalline silicon having a first conductivity type, the source/drain regions comprise polysilicon having a second conductivity type opposite the first conductivity type, and the epitaxial silicon has a conductivity type. There is no indication or suggestion of the source/drain regions of Murthy et al. comprising polysilicon. Therefore, claim 23 is patentably distinct from Murthy et al. Moreover, Murthy et al. in combination with Wieczorek et al. fails to overcome the deficiencies

of Murthy et al. with respect to claim 23. Therefore, claim 23 is allowable over Murthy et al. in view of Wieczorek et al.

Claims 24-25 depend from claim 23 and are thus allowable for at least the same reasons as claim 23. Therefore, claims 24-25 should be allowed.

Claims 28, 31-35, 37, 41-46, and 51-53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Murthy et al. as applied to claims 1, 5-6 and 47-49, and/or the combination of Murthy et al. with Wieczork et al. as applied to claims 19-25 above, and further in view of Millman.

Claims 28, 34, and 41, as currently amended, each recite that first and second source/drain regions each comprise polysilicon interposed between an extension of epitaxial silicon and a corresponding field isolation region. There is no indication of this in Murthy et al. Therefore, Murthy et al. does not include each and every element of claim 28, 34, or 41, so claims 28, 34, and 41 are patentably distinct from Murthy et al. Moreover, Murthy et al. in combination with Wieczorek et al. fails to overcome the deficiencies of Murthy et al. with respect to claim 28, 34, or 41. Therefore, claims 28, 34, and 41 are allowable over Murthy et al. in view of Wieczorek et al. Murthy et al. in combination with Millman fails to overcome the deficiencies of Murthy et al. with respect to claim 28, 34, or 41. Therefore, claims 28, 34, and 41 are allowable over Murthy et al. in view of Millman. Further, Murthy et al. with Wieczorek et al. in combination with Millman fails to overcome the deficiencies of Murthy et al. with Wieczorek et al. with respect to claims 28, 34, or 41. Therefore, claims 28, 34, and 41 are allowable over Murthy et al. with Wieczorek et al. and further in view of Millman.

Claims 31-33 depend from claim 28 and are thus allowable for at least the same reasons as claim 28. Claims 42-46 depend from claim 41 and are thus allowable for at least the same reasons as claim 41. Therefore, claims 31-33 and 42-46 should be allowed.

Claim 35 recites that the monocrystalline silicon substrate comprises monocrystalline silicon having a first conductivity type, the source/drain regions comprise polysilicon having a second conductivity type opposite the first conductivity type, and the epitaxial silicon has a conductivity type. There is no indication or suggestion of the source/drain regions of Murthy et al. comprising polysilicon. Therefore, claim 35 is patentably distinct from Murthy et al.

Moreover, Murthy et al. in combination with Wieczorek et al. fails to overcome the deficiencies of Murthy et al. with respect to claim 35. Therefore, claim 35 is allowable over Murthy et al. in view of Wieczorek et al. Murthy et al. in combination with Millman fails to overcome the deficiencies of Murthy et al. with respect to claim 35. Therefore, claim 35 is allowable over Murthy et al. in view of Millman. Further, Murthy et al. with Wieczorek et al. in combination with Millman fails to overcome the deficiencies of Murthy et al. with Wieczorek et al. with respect to claim 35. Therefore, claim 35 is allowable over Murthy et al. with Wieczorek et al. and further in view of Millman.

Claim 37, as currently amended, is patentably distinct from Murthy et al. and from Murthy et al. in view of Millman. Moreover, Murthy et al. in combination with Wieczorek et al. fails to overcome the deficiencies of Murthy et al. with respect to claim 37. Therefore, claim 37 is allowable over Murthy et al. in view of Wieczorek et al. Further, Murthy et al. with Wieczorek et al. in combination with Millman fails to overcome the deficiencies of Murthy et al. with Wieczorek et al. with respect to claim 37. Therefore, claim 37 is allowable over Murthy et al. with Wieczorek et al. and further in view of Millman.

Claim 47, as currently amended, is patentably distinct from Murthy et al. Moreover, Murthy et al. in combination with Wieczorek et al. fails to overcome the deficiencies of Murthy et al. with respect to claim 47. Therefore, claim 47 is allowable over Murthy et al. in view of Wieczorek et al. Murthy et al. in combination with Millman fails to overcome the deficiencies of Murthy et al. with respect to claim 47. Therefore, claim 47 is allowable over Murthy et al. in view of Millman. Further, Murthy et al. with Wieczorek et al. in combination with Millman fails to overcome the deficiencies of Murthy et al. with Wieczorek et al. with respect to claim 47. Therefore, claim 47 is allowable over Murthy et al. with Wieczorek et al. and further in view of Millman. Claims 51-53 depend from claim 47 and are thus allowable for at least the same reasons as claim 47. Therefore, claims 51-53 should be allowed over Murthy et al. in view of Millman and over Murthy et al. with Wieczorek et al. and further in view of Millman.

Allowable Subject Matter

Applicant acknowledges that claims 2-4, 7, 9-11, 14-15, 17-18, 26-27, 29-30, 36, 38-40, 50 and 54-55 were allowed.

CONCLUSION

In view of the above remarks, Applicant believes that all pending claims are in condition for allowance and respectfully requests a Notice of Allowance be issued in this case. Please charge any further fees deemed necessary or credit any overpayment to Deposit Account No. 501373.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 312-2208.

Respectfully submitted,

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